U.S. Department of Transportation
National Highway Traffic Safety Administration

TRAFFIC TECH
Technology Transfer Series

NHTSA
www.nhtsa.gov

DOT HS 812 089

December 2014

Evaluation of a High-Visibility Seat Belt Enforcement Program on the Blue Ridge Parkway

There were 136 passenger vehicle fatalities in national parks from 2006 to 2010. Among these, only 50.7 percent were wearing seat belts when fatally injured. In one effort to reduce the number of unrestrained motor vehicle fatalities in national parks, the National Highway Traffic Safety Administration (NHTSA) and the National Park Service (NPS) conducted a high-visibility enforcement (HVE) seat belt program to increase seat belt use on the Roanoke Corridor, a 24-mile stretch of the Blue Ridge Parkway (BRP) that sees frequent commuter traffic.

Seat belts are required by all occupants of a motor vehicle in motion on Federal property, which includes the BRP. Federal law enforcement officers, such as park rangers, have primary seat belt enforcement authority on the BRP and can stop a vehicle for an observed seat belt violation alone.

NHTSA conducted an independent evaluation of two of the three program waves, spring and fall 2010, with the spring wave coinciding with the national *Click It or Ticket* (CIOT) program. The evaluation described the program activity and measured changes in public awareness and observed belt use.

Enforcement

During the 12-day saturation patrols, officers came from other areas to help with the enforcement effort, including park rangers from additional NPS areas and local and State police. The activity took place on week days from 6 a.m. – 8 p.m., when local commuters were most likely to be on the road. Enforcement officers were instructed to verbally communicate safety messages to all drivers at traffic stops, particularly regarding seat belts, and to issue citations to non-compliant drivers.

For the two activity periods, enforcement reported 104 and 56 seat belt citations and 4 and 21 warnings, respectively. Enforcement reported more seat belt violations than any other type, with speeding the second most common.

Media

The program relied on roadway signage and the highly visible presence of enforcement officers on the roadway. The NPS placed temporary signs on exit and entrance ramps and affixed permanent metal signs to speed limit signs along the Roanoke Corridor. Magnetic strips were attached to the rear of enforcement vehicles for passing motorists to see and associate the enforcement vehicle with the seat belt enforcement activities.

The program did not use paid media, such as paid TV, and there was very little reported coverage in the local news. The first program wave coincided with the national CIOT program, so national paid media potentially reached the program area during the first activity period.

Driver License Office Awareness Survey

The Virginia Department of Motor Vehicles (DMV) in Roanoke (proxy program area) and Charlottesville (comparison area) administered a driver awareness survey before and after the second wave.

Awareness of seat belt enforcement on the BRP increased significantly among Roanoke respondents (12.2% to 16.9%), but did not among respondents in the comparison area (9.2% to 9.4%). As would be expected, there appeared to be a relationship between reported BRP use and awareness of enforcement, with the most frequent users (i.e., once a week) reporting the highest awareness after the second wave (41.5%) and less frequent users (i.e., couple times a month and less than once a month) reporting less (24% and 12.9%, respectively).

The survey included questions on the seat belt laws in Virginia (secondary) and on the BRP (primary). In both Roanoke and Charlottesville, about half of the respondents answered correctly and no significant changes from before to after the program were found.

Seat Belt Observations

Observed seat belt use on the BRP increased by 9.3 percentage points (82.5% to 91.8%) for the first wave and by 7.6 points (82.5%—same baseline as first wave—to 90.1%) for the second. Observed belt use increased for drivers, passengers, males, females, and for all vehicle types from baseline to the end of the second wave.

Observed belt use among pickup truck occupants had the lowest baseline out of all categories (73.8%) and showed the greatest increase among the vehicle categories after the first wave (+13.9). While this group continued to increase for the second wave (+9.9), observed use in pickup trucks was lower than the other vehicle categories after the second wave (81.3% versus 91.7%, 91.2%, and 93.3%). Generally, the groups lagging most in observed seat belt usage gained the most over the course of the two waves, lessening the discrepancy among groups.

Seat belt observations were also conducted in Roanoke City and Charlottesville (comparison area) for the second wave. In Roanoke, there was a slight decrease in observed seat belt use (-2.5) from 78.0% to 75.5% percent after the second wave. Before the second wave of activity began, surveys showed seat belt use was higher in Charlottesville than on the BRP (88.9% versus 82.5%). However, observed seat belt use did not appear to change in the comparison area after the second wave of activity, while observed seat belt use appeared to increase on the BRP.

Discussion

The National Park Service (NPS) program involved low-cost media and strong enforcement partnerships, demonstrated by NPS park rangers and officers from local agencies working together to enforce the seat belt law on the BRP.

While there were significant increases in awareness of enforcement among Roanoke respondents, the evaluation does not clearly show the link between the program's earned media and changes in awareness, as the respondents may have been exposed to CIOT national media and most respondents reported traveling on the BRP less than once a month, decreasing their chances of seeing the roadway signage.

The program activity was associated with an increase in observed seat belt use, improving belt use among those groups most in need for improvement, such as males and pickup truck occupants. However, these groups started at lower baseline levels, possibly contributing to the magnitude of their observed change, as lower levels are often more susceptible to change. Nevertheless, observed belt use did not significantly change in the comparison area, suggesting the program activity contributed to the changes observed on the BRP.

While observed seat belt use increased significantly after both waves of program activity, observed use dropped back down to the pre-program baseline level during the five month period between the two waves (82.5 to 91.8 and 82.5 to 90.1 from May to October 2010). Most ideally, observed belt use measured over multiple program waves would show a ratcheting effect, where seat belt use may drop back down, but not to the level where it was before the program. This ratcheting effect would indicate a prolonged program effect on seat belt use, where some newly buckled drivers would remain buckled after the program activity subsided. However, in this case, there are only two waves of observation data available, which greatly limits how much the data can say about sustained program effectiveness.

As opposed to belt use on the BRP, observed use among drivers on Roanoke city streets did not appear to change. The awareness survey results suggest this may have been related to program exposure. Most Roanoke respondents reported using the BRP less than once a month (i.e., average of 77.7%) and fewer reported more frequent use (i.e., average of 13.1% reported using the BRP a couple times a month and an average of 9.2% reported using the BRP more than once a week). While some drivers in Roanoke may have been exposed to the enforcement activity when commuting on the Roanoke Corridor, others may have had limited or no exposure to the actual enforcement activity. Evaluating programs on national park lands presents challenges, such as finding adequate ways to reach the people who frequent the area and have been exposed to the program. This is something that should be considered and addressed for future projects of this nature.

Interestingly, even with the absence of a behavioral change in Roanoke, there was a significant increase in awareness of the enforcement among Roanoke respondents. It is important to consider how the Roanoke respondents were exposed to the program, given that most were not frequenting the BRP to see the roadway signs and enforcement activity. One possibility is that these respondents may have been exposed to the program through the press release, as 10.8 percent of Roanoke respondents reported learning about the program from the radio. The Roanoke respondents may have also been exposed to the national CIOT media during the first program wave.

There were no significant changes in awareness of the seat belt laws in Virginia or on the BRP. Only about half of the Roanoke respondents were aware of the laws both before and after the program. While the awareness survey data are limited because they mainly include infrequent BRP drivers, if this group of respondents reported an increase in awareness of the enforcement activity, one would expect to see a similar increase in awareness of the seat belt law. Outside speculation, the parameters of the evaluation limit making clear conclusions regarding this finding. However, examination of the press release reveals that while the enforcement effort is discussed, the primary seat belt law does not appear to be mentioned specifically. Perhaps future efforts of this nature could benefit from placing greater emphasis on seat belt laws in the earned media material.

Conclusion

While this evaluation is limited in drawing strong conclusions about program effectiveness, the results do suggest the program was associated with positive outcomes. The National Park Service (NPS) implemented a program involving low-cost media and strong enforcement partnerships, activity associated with significant increases in observed seat belt use on the BRP.

Report Access

Download the final report of *Evaluation of a High-Visibility Enforcement Seat Belt Program on the Blue Ridge Parkway* (24 pages, plus appendices), prepared by Preusser Research Group, Inc., at www.nhtsa.gov.

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11180-112614-v2